LPC 10”/12” Series

10.4”/12.1” Multifunctional Touch Panel PC

Quick Reference Guide

1st Ed – 1 November 2010

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Part No. E20171205A0R

1. Getting Started

1.1 Safety Precautions

Warning!

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.
Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

1.2 Packing List

- 1 x LPC 10"/12" Series Panel PC
- 1 x Quick Reference Guide
- 1 x DVD-ROM contains the followings:
  - User’s Manual (this manual in PDF file)
  - Ethernet driver and utilities
  - VGA drivers and utilities
  - Audio drivers and utilities
  - WiFi drivers and utilities
  - Touch controller drivers and utilities
- 1 x Power Adapter
- 1 x Stand for Panel PC (optional)

If any of the above items is damaged or missing, contact your retailer.

1.3 System Specifications

Panel				
Model	**LPC-1205**		**LPC-1005**	
LCD size	12.1", 4:3		10.4", 4:3	
Display type	SVGA	XGA	SVGA	XGA
Resolution	800 x 600	1024 x 768	800 x 600	1024 x 768
Color	262K	262K	262K	16.2M
Pixel pitch	0.240mm(H) x 0.240mm(V)	0.240mm(H) x 0.240mm(V)	0.264mm(H) x 0.264mm(V)	0.0685mm(H) x 0.2055mm(V)
Luminance	600 cd/m²	600 cd/m²	230 cd/m²	500 cd/m²
Contrast ratio	700	700	500	1200
Viewing angle	70(U), 70(D), 80(L), 80(R)	70(U), 70(D), 80(L), 80(R)	55(U), 65(D), 70(L), 70(R)	88(U), 88(D), 88(L), 88(R)
Response time	16 ms	16 ms	25 ms	25 ms
Backlight	LED	LED	CCFL	LED
Touch type	5 Wires resistive		5 Wires resistive	
Touch interface	USB		USB	
System				
Board	**EBM-PNV**			
CPU	Onboard Intel® Pineview D525 1.8GHz CPU			
BIOS	AMI 8Mbit Flash BIOS			
System Chipset	Intel ICH8-M			
I/O Chipset	Winbond W83627DHG			
System Memory	Onboard 1GB SDRAM and one SODIMM supports up to 3GB			
SSD	One CF socket supports Type I / II Compact Flash Card.			
HDD	Optional 2.5" SATA HDD			
WiFi	Optional USB WiFi 802.11b/g			
Watchdog Timer	Reset: 1 ~ 65535 sec./min. and 1 min./step			
Audio	Realtek ALC888 supports 5.1-CH Audio			
Ethernet	Intel® 82574L Gigabit LAN, Optional Dual LAN			

External I/O Ports		
COM Port	1 x RS-232	
Ethernet Port	1 x RJ-45	
VGA / LCD Port	1 x DB-15	
USB Port	2 x USB 2.0	
Audio Port	Line-out	
Mouse & K/B	1 x PS/2 KB & MS	
Power Supply Unit		
Power Input	+12V	
Power Output	5A (60W)	
Environment & Mechanical		
Operating Temperature	-10~40℃ (14~104℉)	
Storage Temperature	-20 to +75℃ (-4~167℉)	
Relative Humidity	5 to 90% @ 40℃ (104℉), relative humidity, non-condensing	
Dimension (W x D x H)	283 x 222x 45 mm	259 x 196 x 41mm
Weight	2.84 Kgs	2.11 Kgs
Mounting	Desktop (VESA Compliance)	

Panel				
Model	**LPC-1203**		**LPC-1003**	
LCD size	12.1", 4:3		10.4", 4:3	
Display type	SVGA	XGA	SVGA	XGA
Resolution	800 x 600	1024 x 768	800 x 600	1024 x 768
Color	262K	262K	262K	262K
Pixel pitch	0.3075mm(H) x 0.3075mm(V)	0.240mm(H) x 0.240mm(V)	0.264mm(H) x 0.264mm(V)	0.20625mm(H) x 0.20625mm(V)
Luminance	450 cd/m²	450 cd/m²	230 cd/m²	300 cd/m²
Contrast ratio	1000	700	500	500
Viewing angle	89(U), 89(D), 89(L), 89(R)	80(U), 80(D), 80(L), 80(R)	55(U), 65(D), 70(L), 70(R)	60(U), 60(D), 70(L), 70(R)
Response time	25 ms	25 ms	25 ms	25 ms
Backlight	CCFL	CCFL	CCFL	CCFL
Touch type	5 Wires resistive		5 Wires resistive	
Touch interface	USB		USB	
System				
Board	**EBM-945GSE**			
CPU	Onboard Intel Atom N270 1.6GHz (2.5W)			
BIOS	Award 4 Mbit Flash BIOS			
System Chipset	Intel 945GSE + ICH7-M			
I/O Chipset	ITE 8712F			
System Memory	Onboard 1GB DDR2, extra one SODIMM supports up to 2GB 400/533 SDRAM			
SSD	One CF socket supports Type I / II Compact Flash Card.			
HDD	Optional 2.5" SATA HDD or 44-pin enhanced IDE HDD			
WiFi	Optional USB WiFi 802.11b/g			
Watchdog Timer	Reset: 1 ~ 65535 sec./min. and 1 min./step			
Display	Intel 945GSE GMCH integrated GMA950 graphics			
Audio	Realtek ALC 655 supports 5.1-CH Audio			
Ethernet	Dual Realtek RTL8111C Gigabit LAN, supports wake on LAN			

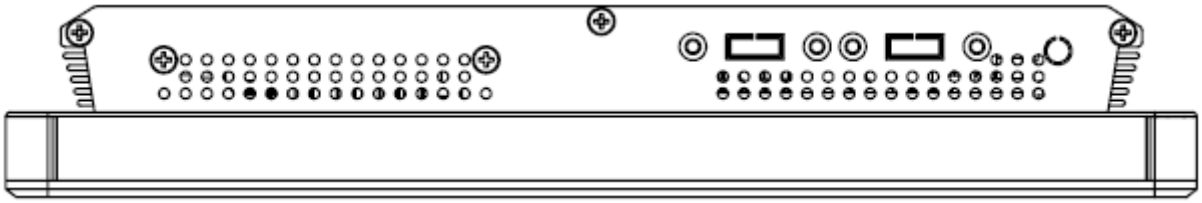
External I/O Ports		
COM Port	1 x RS-232/422/485 setting by BIOS*, optional extra 1 x RS-232/422/485	
Ethernet Port	Dual RTL8111C Giga LAN	
VGA / LCD Port	1 x DB-15	
Audio Port	Line-out	
USB Port	2 x USB 2.0	
Power Supply Unit		
Power Input	12V	
Power Output	5A (60W)	
Environment & Mechanical		
Operating Temperature	0~60℃ (32~140℉)	0~40℃ (32~104℉)
Storage Temperature	-20 to +75℃ (-4~167℉)	-20 to +75℃ (-4~167℉)
Relative Humidity	5 to 90% @ 40℃ (104℉), relative humidity, non-condensing	
Dimension (W x D x H)	283 x 222x 45 mm	259 x 196 x 41mm
Weight	2.84 Kgs	2.11 Kgs
Mounting	Desktop (VESA Compliance)	

Panel				
Model	**LPC-1201**		**LPC-1001**	
LCD size	12.1", 4:3		10.4", 4:3	
Display type	SVGA	XGA	SVGA	XGA
Resolution	800 x 600	1024 x 768	800 x 600	1024 x 768
Color	262K	262K	262K	262K
Pixel pitch	0.3075mm(H) x 0.3075mm(V)	0.240mm(H) x 0.240mm(V)	0.264mm(H) x 0.264mm(V)	0.20625mm(H) x 0.20625mm(V)
Luminance	450 cd/m²	450 cd/m²	230 cd/m²	300 cd/m²
Contrast ratio	1000	700	500	500
Viewing angle	89(U), 89(D), 89(L), 89(R)	80(U), 80(D), 80(L), 80(R)	55(U), 65(D), 70(L), 70(R)	60(U), 60(D), 70(L), 70(R)
Response time	25 ms	25 ms	25 ms	25 ms
Backlight	CCFL	CCFL	CCFL	CCFL
Touch type	5 Wires resistive	5 Wires resistive	4 Wires resistive	5 Wires resistive
Touch interface	USB		USB	
System				
Board	**EBM-CX700**			
CPU	Onboard VIA Eden ULV 1GHz (3.5W), up to 1.6GHz (8W) CPU			
BIOS	Award, 512KB Flash BIOS			
System Chipset	VIA CX700M			
I/O Chipset	VIA VT1211			
System Memory	One 200-pin DDR2 SODIMM socket, supports up to 1GB DDR2 400/533 SDRAM			
SSD	One CF socket supports Type I / II Compact Flash Card.			
HDD	Optional 2.5" SATA HDD or 44-pin enhanced IDE HDD			
WiFi	Optional USB WiFi 802.11b/g			
Watchdog Timer	Reset: 1 ~ 65535 sec./min. and 1 min./step			
Display	VIA CX700M			
Audio	VIA VT1708A supports 2CH Audio			
Ethernet	Dual RTL8110SC Gigabit LAN/10/100/1000 Base-Tx Fast Ethernet compatible			

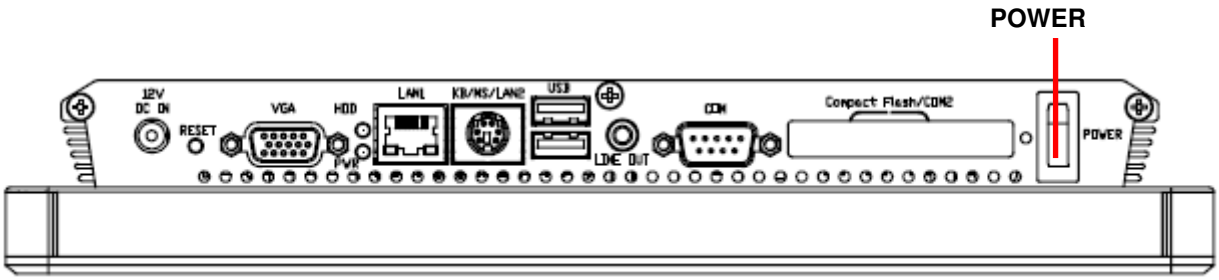
External I/O Ports		
COM Port	1 x RS-232	
Ethernet Port	Dual RTL8110SC Giga LAN	
VGA / LCD Port	1 x DB-15	
Audio Port	Line-out	
USB Port	2 x USB 2.0	
Power Supply Unit		
Power Input	12V	
Power Output	5A (60W)	
Environment & Mechanical		
Operating Temperature	-10~60℃ (14~140℉)	0~40℃ (32~104℉)
Storage Temperature	-20 to +75℃ (-4~167℉)	-20 to +75℃ (-4~167℉)
Relative Humidity	5 to 90% @ 40℃ (104℉), relative humidity, non-condensing	
Dimension (W x D x H)	283 x 222x 45 mm	259 x 196 x 41mm
Weight	2.84 Kgs	2.11 Kgs
Mounting	Desktop (VESA Compliance)	

1.4 System Overview

1.4.1 Front View



1.4.2 Rear View

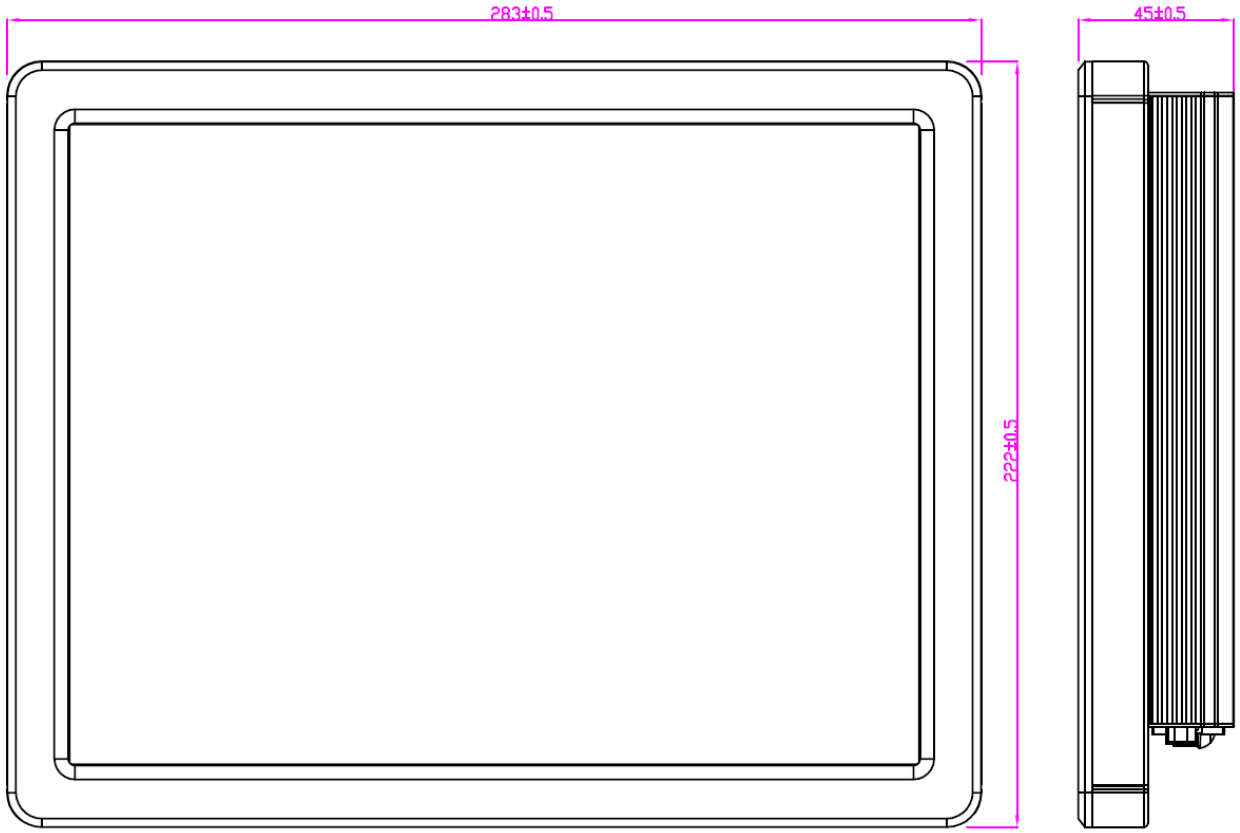


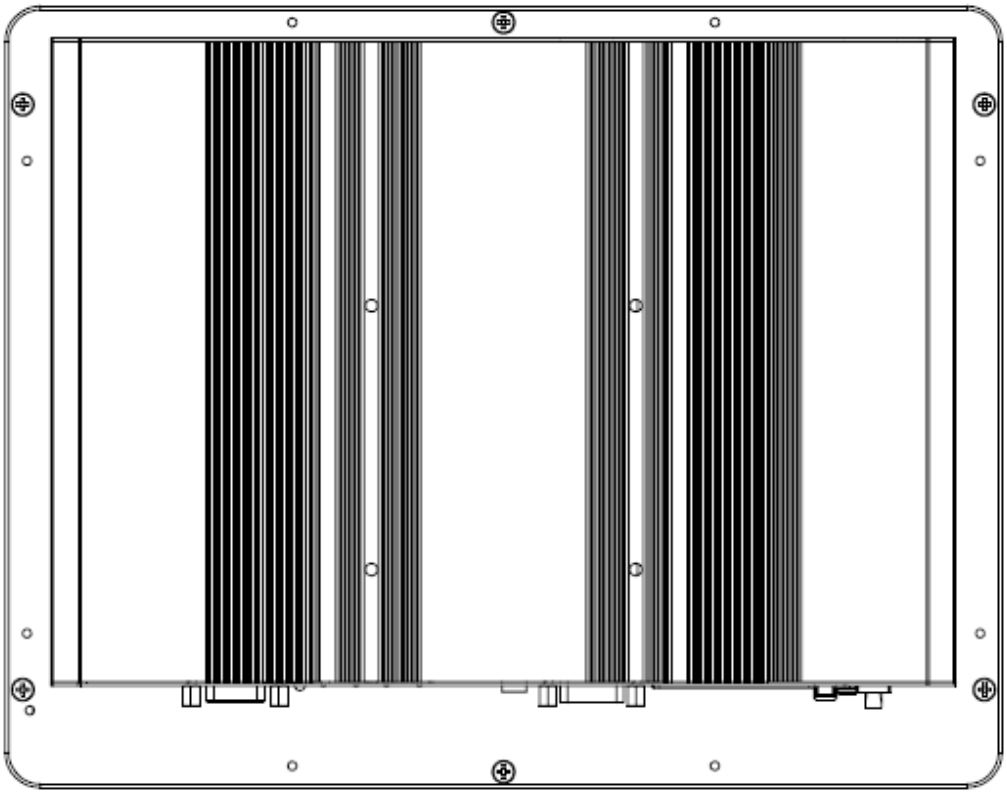
Connectors

Label	Function	Note
POWER	Power on button	
CF	CF Type I/II Socket with Ejector	Optional for 2nd COM port
COM	Serial port	DB-9 male connector
LINE OUT	Line-out audio jack	
USB	2 x USB 2.0 connector	Dock USB
LAN1	RJ-45 Ethernet connector 1	
KB/MS **(LAN2)**	LPC-1005/1205 -- PS/2 connector LPC-1001/1003/1201/1203 -- LAN2	
HDD	HDD indicator	
PWR	System power indicator	
VGA	CRT connector	DB-15 female connector
RESET	Reset button	
DC-IN	DC Power-in connector	

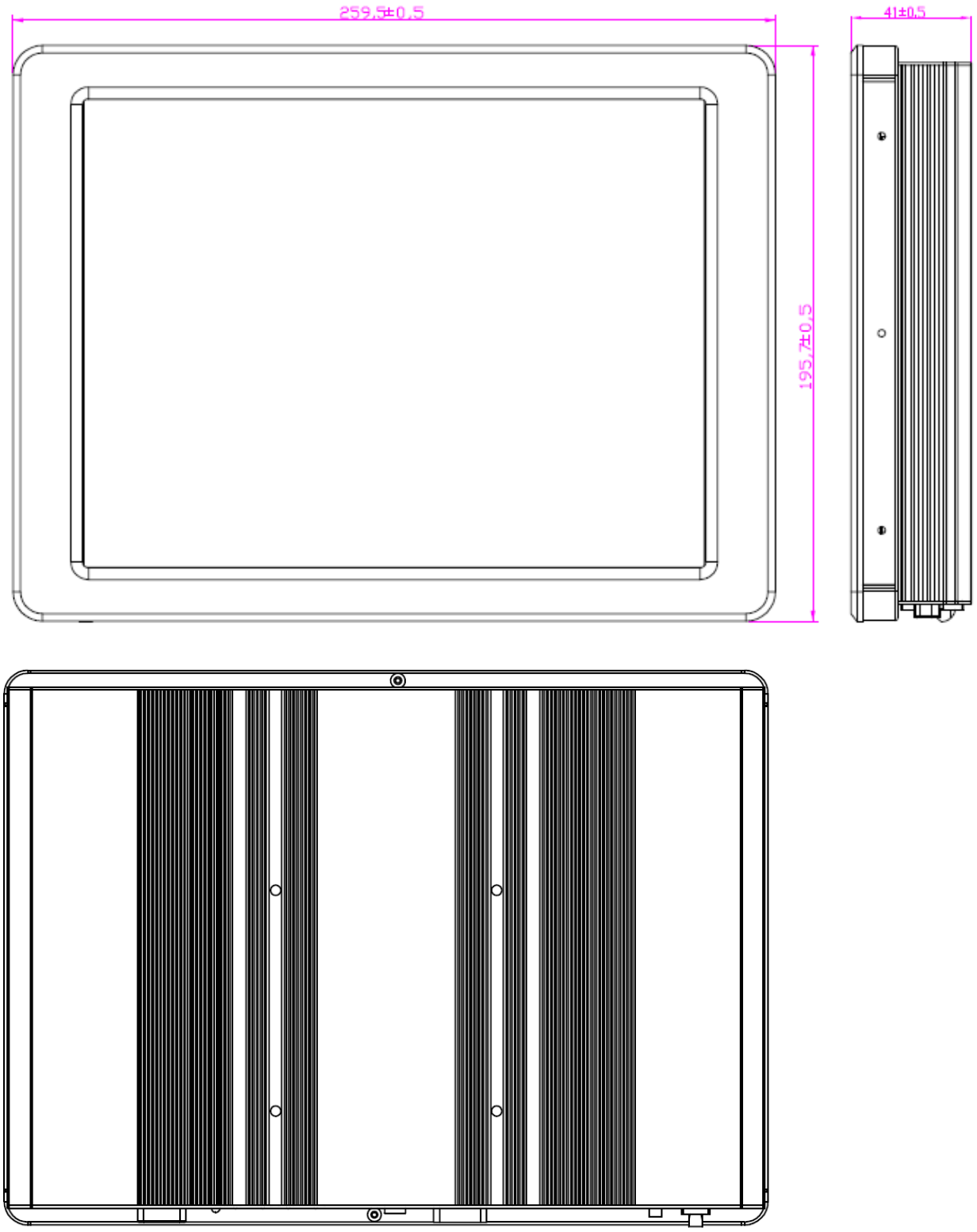
1.5 System Dimensions

1.5.1 LPC-12 Front and Rear side



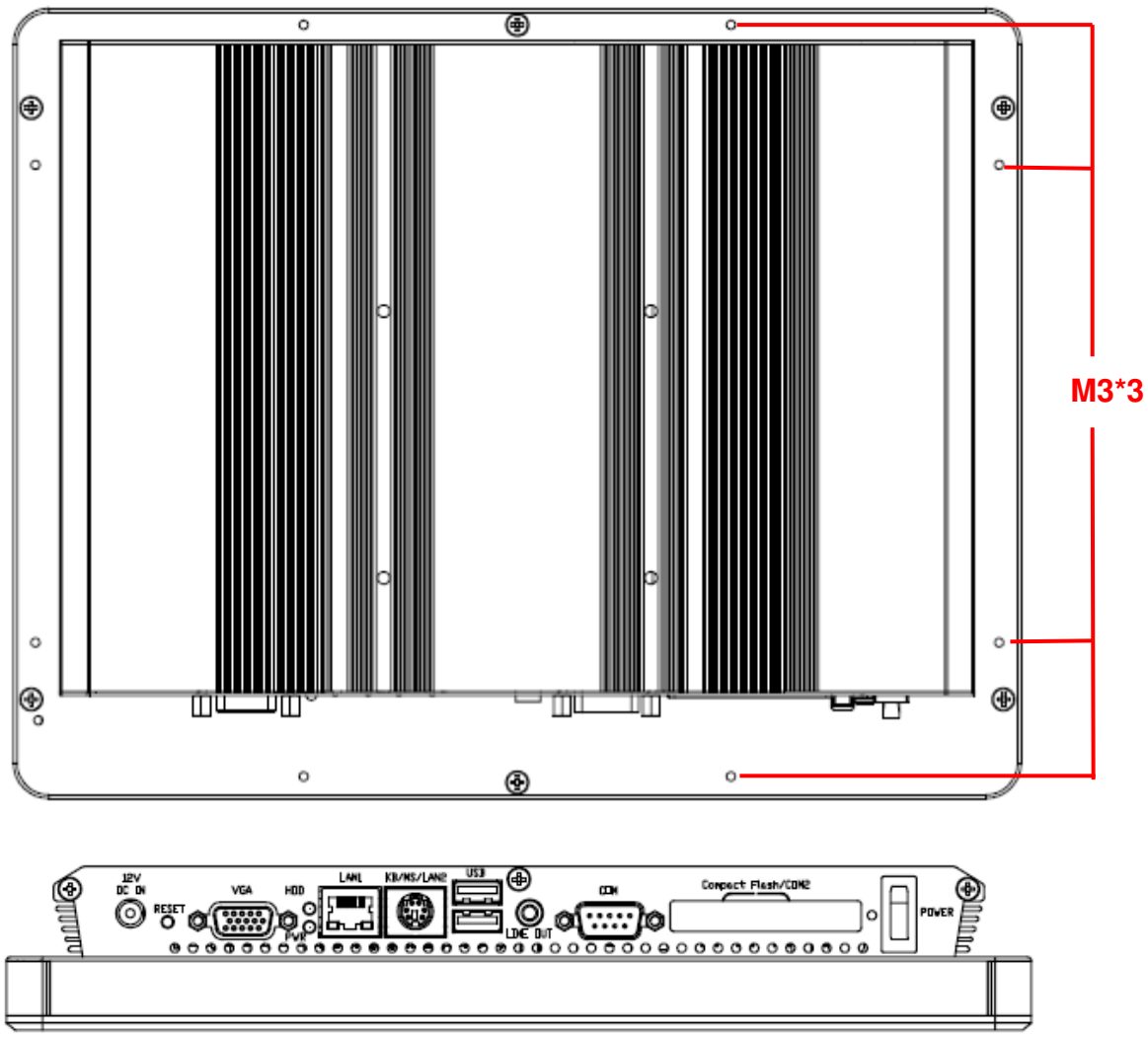


1.5.2 LPC-10 Front and Rear side

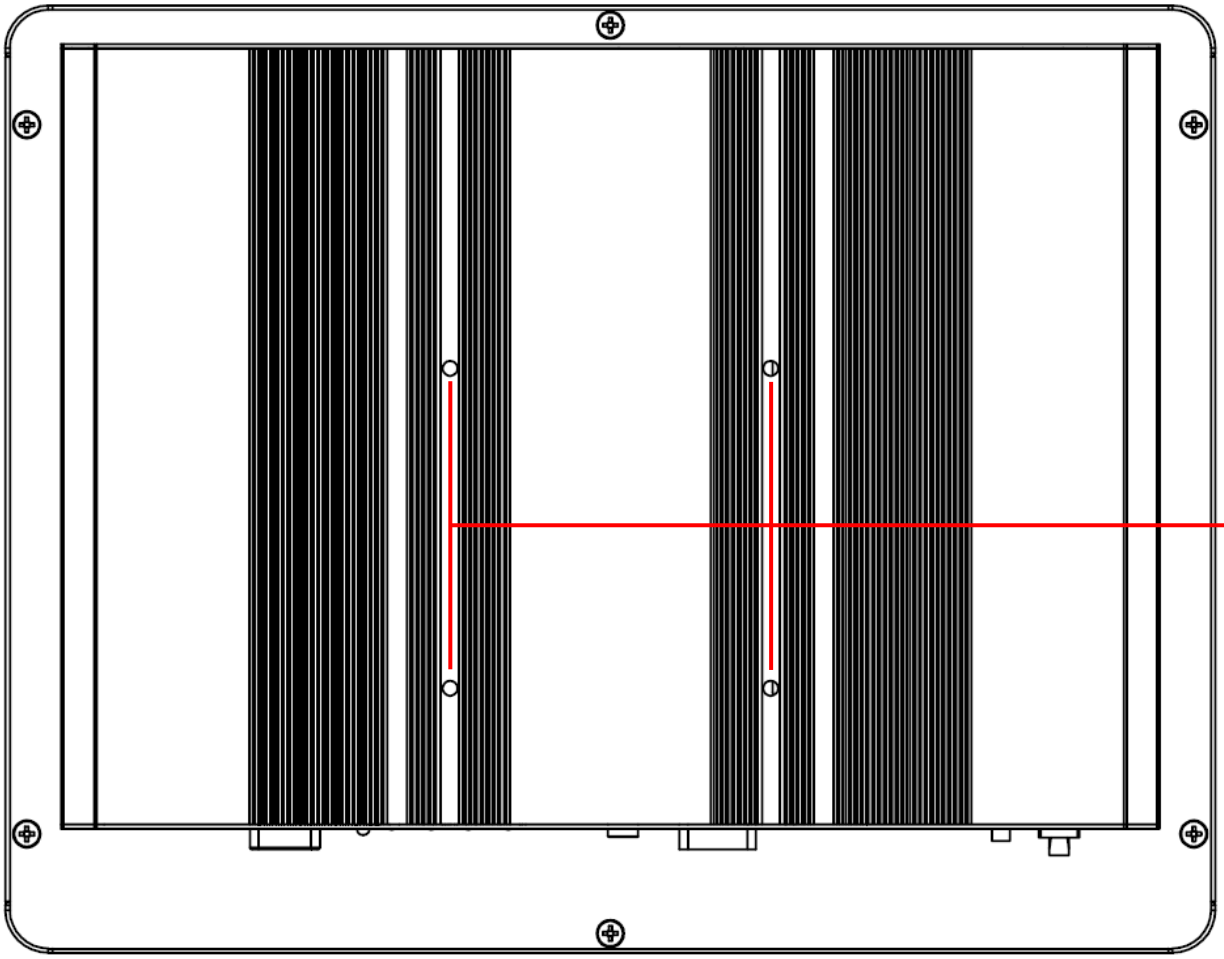


(Unit: mm)

1.5.3 Bottom and Rear Side



Note: The M3*3 screw holes are reserved for LPC Series Panel Mount Brackets. Improper usage may harm the mechanical parts.



Follow these steps to install the wall mounting arm:

1. Place the wall mounting arm onto the back of panel PC.
2. Insert the 4 screws into the holes and tighten. Line up the holes of the arm with the holes of panel PC.
3. Reconnect the cables. Refer to the user's manual of the optional wall mounting arm to attach it to the wall.

Note: 75mmx75mm VESA hole(n=4), M4, pitch=0.5mm, deep=4mm. Due to safety concerns, if the VESA mounting kit is purchased separately, please make sure the mounting kit is UL-Listed.

2. Hardware Configuration

Note: If you need more information, please visit our website:

http://www.avalue.com.tw

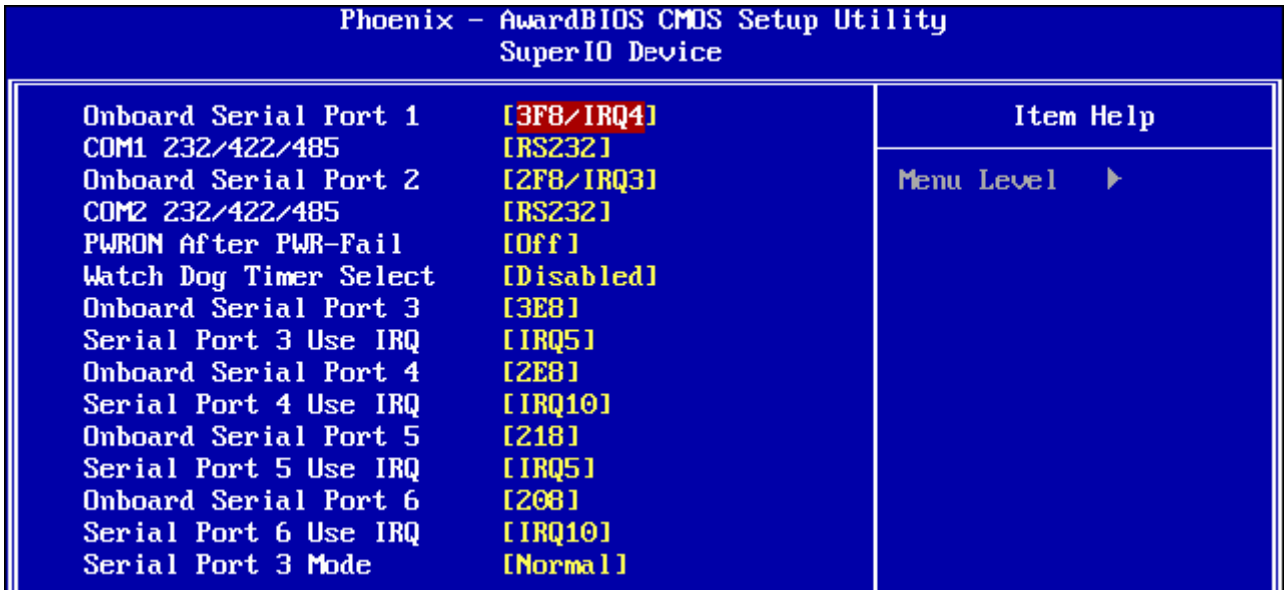
2.1 BIOS settings

2.1.1 RS232/422/485 setting using BIOS

2.1.1.1 EBM-945GSE M/B

The COM port setting of LPC-1003/1203, which applies for EBM-945GSE M/B, can be configured by BIOS. The path is shown as below.

[BIOS Menu] → [Integrated Peripherals] → [Super IO Device] → [COMPORT 232/422/485]


Phoenix - AwardBIOS CMOS Setup Utility
SuperIO Device
Onboard Serial Port 1 [3F8/IRQ4]
COM1 232/422/485 [RS232]
Onboard Serial Port 2 [2F8/IRQ3]
COM2 232/422/485 [RS232]
PWRON After PWR-Fail [Off]
Watch Dog Timer Select [Disabled]
Onboard Serial Port 3 [3E8]
Serial Port 3 Use IRQ [IRQ5]
Onboard Serial Port 4 [2E8]
Serial Port 4 Use IRQ [IRQ10]
Onboard Serial Port 5 [218]
Serial Port 5 Use IRQ [IRQ5]
Onboard Serial Port 6 [208]
Serial Port 6 Use IRQ [IRQ10]
Serial Port 3 Mode [Normal]
Item Help
Menu Level ▶

The panel backlight of LPC-1003/1203, which applies for EBM-945GSE M/B, can be configured by BIOS as well. The path is shown as below.

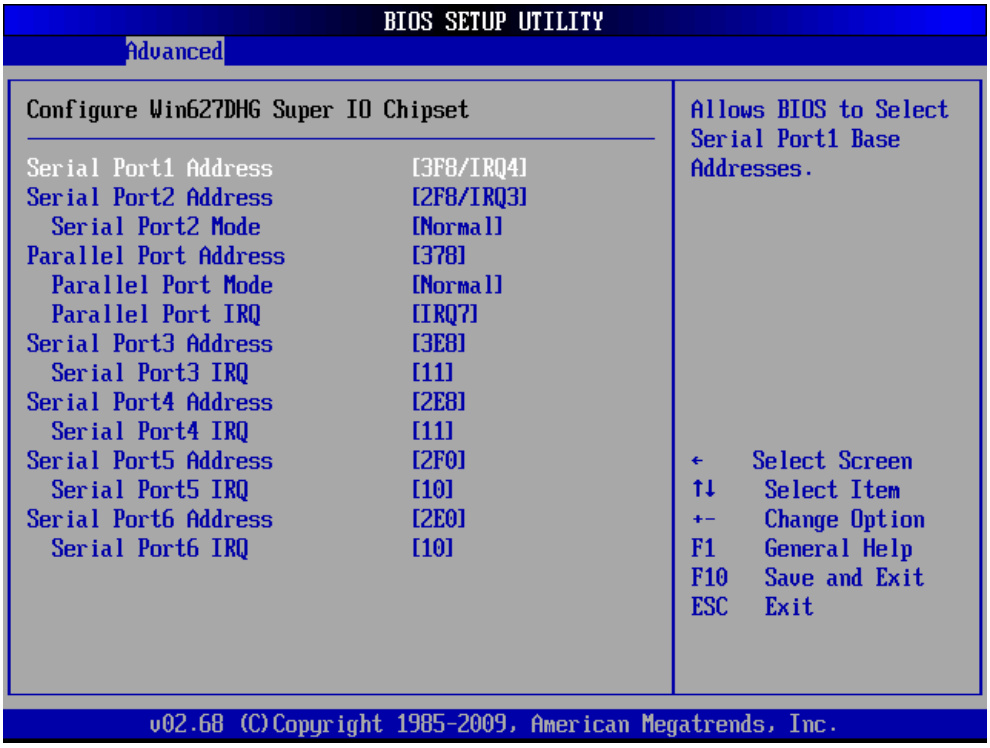
[BIOS Menu] → [Advanced Chipset Features] → [LVDS Back Light]

To know more about other settings, please refer to **EBM-945GSE** Quick Installation Guide or User's Manual.

2.1.1.2 EBM-PNV M/B

The COM port setting of LPC-1005/1205, which applies for EBM-PNV M/B, can be configured by BIOS. The path is shown as below.

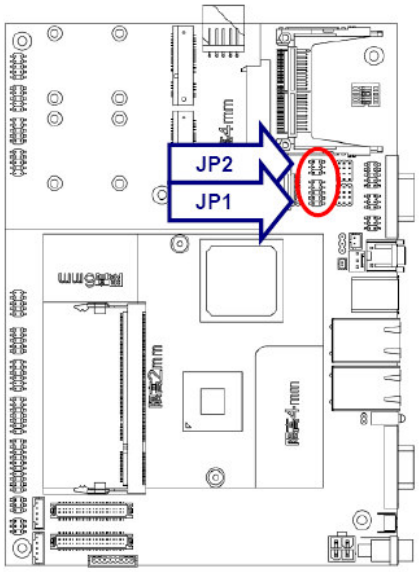
[BIOS Menu] → [Advanced] → [Super IO Configuration]
→ [Serial Port 2 mode for RS-232/422/485]

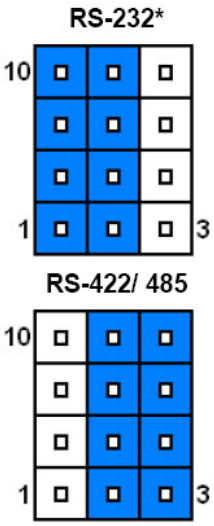


Note: To change COM port setting, it is necessary to adjust SW2, JP1, JP2 settings of EBM-PNV as well.

2.1.1.2.1 EBM-PNV board COM port setting

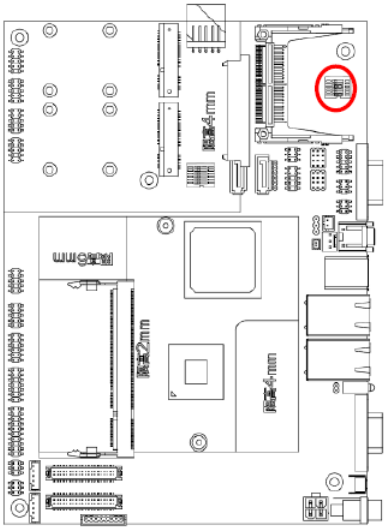
i Serial port 1/ 2 RS-232/ 422/ 485 mode select (JP1/ JP2)





* Default

ii Serial port 1/ 2 - RS-232/ 422/ 485 mode select (SW2)



In Serial Port 1 mode

	RS-232	RS-422	RS-485
1	ON	OFF	OFF
2	OFF	ON	OFF
3	OFF	OFF	ON

In Serial Port 2 mode

	RS-232	RS-422	RS-485
4	ON	OFF	OFF
5	OFF	ON	OFF
6	OFF	OFF	ON

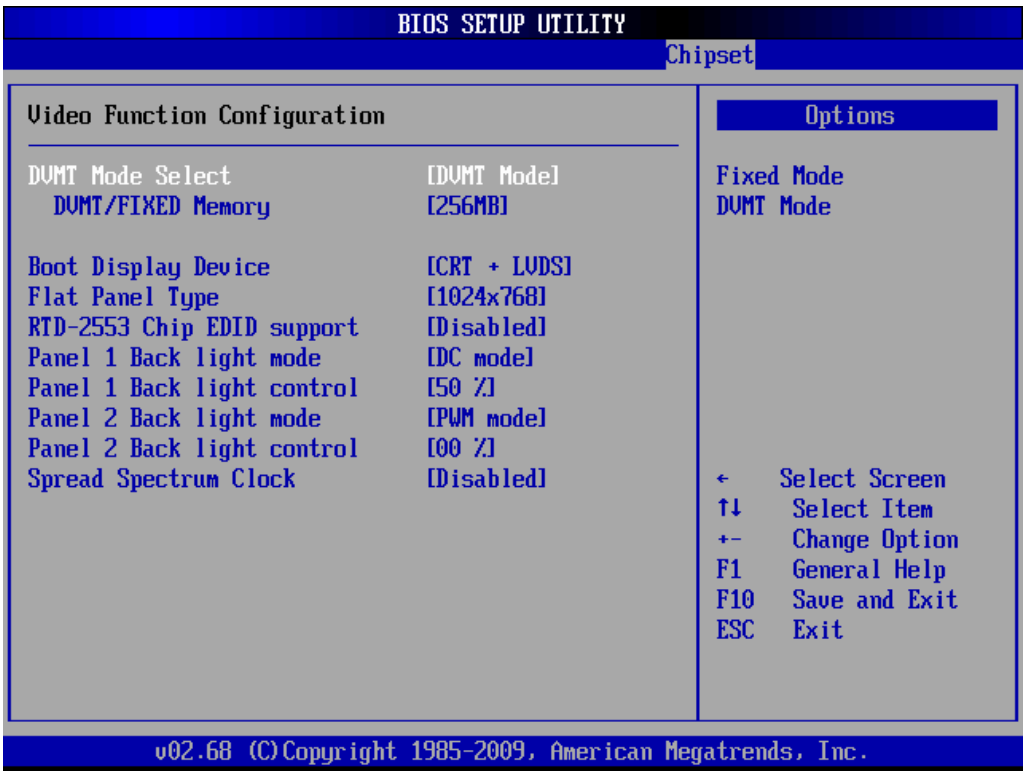
2.1.2 PWM Backlight control setting for EBM-PNV

The Backlight control setting which applies for EBM-PNV M/B can be configured by BIOS; the path is shown as below.

[Chipset] → [North Bridge Configuration] → [Video Function Configuration]

Panel 2 Back light mode: PWM mode

Panel 2 Back light control: 100%


BIOS SETUP UTILITY
Chipset
Video Function Configuration
DVMT Mode Select [DVMT Mode]
DVMT/FIXED Memory [256MB]
Boot Display Device [CRT + LVDS]
Flat Panel Type [1024x768]
RTD-2553 Chip EDID support [Disabled]
Panel 1 Back light mode [DC mode]
Panel 1 Back light control [50 %]
Panel 2 Back light mode [PWM mode]
Panel 2 Back light control [00 %]
Spread Spectrum Clock [Disabled]
Options
Fixed Mode
DVMT Mode
← Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
v02.68 (C)Copyright 1985-2009, American Megatrends, Inc.

Note:

Panel 1 Back light mode : DC mode

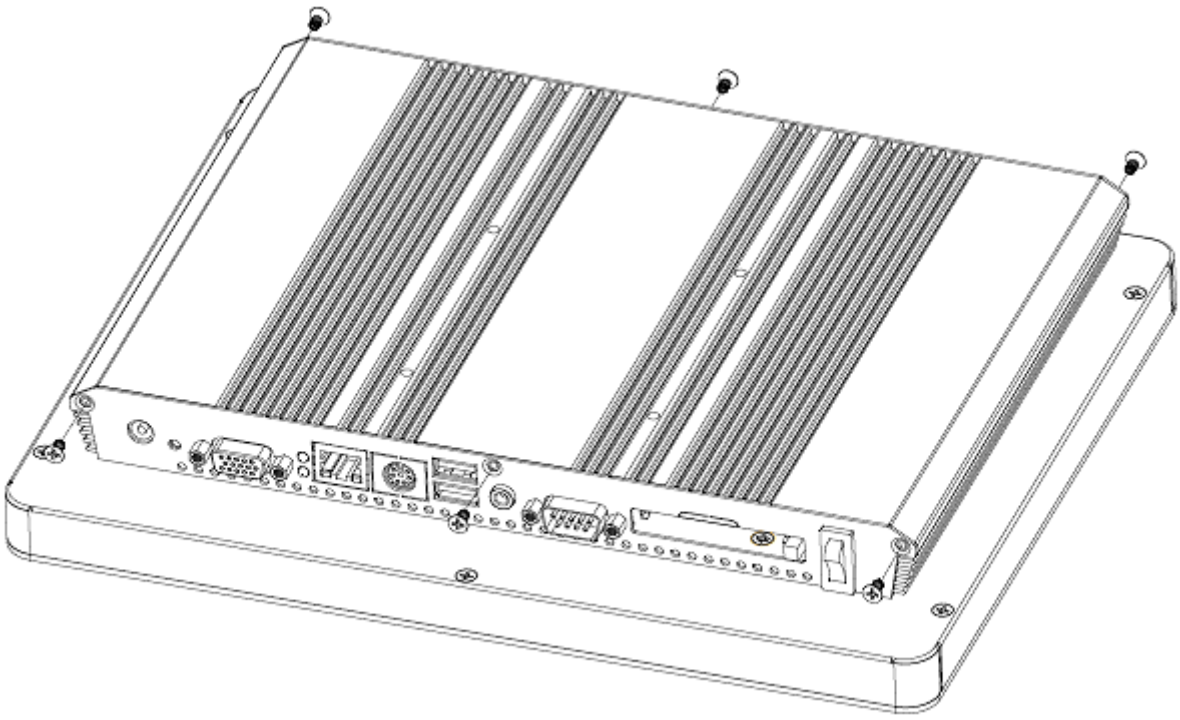
Panel 1 Back light control : 50%

Panel 1 control for 18bit LVDS panel.

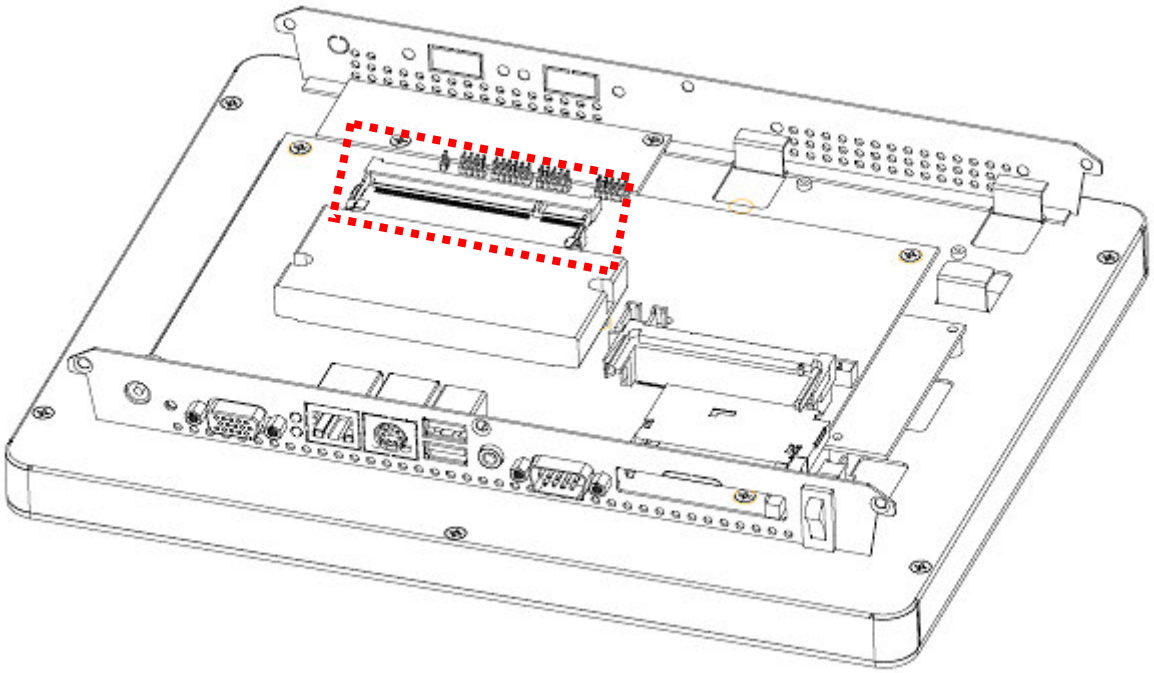
To know more about other settings, please refer to **EBM-PNV** Quick Installation Guide or User’s Manual.

2.2 Installing Hard Disk & Memory

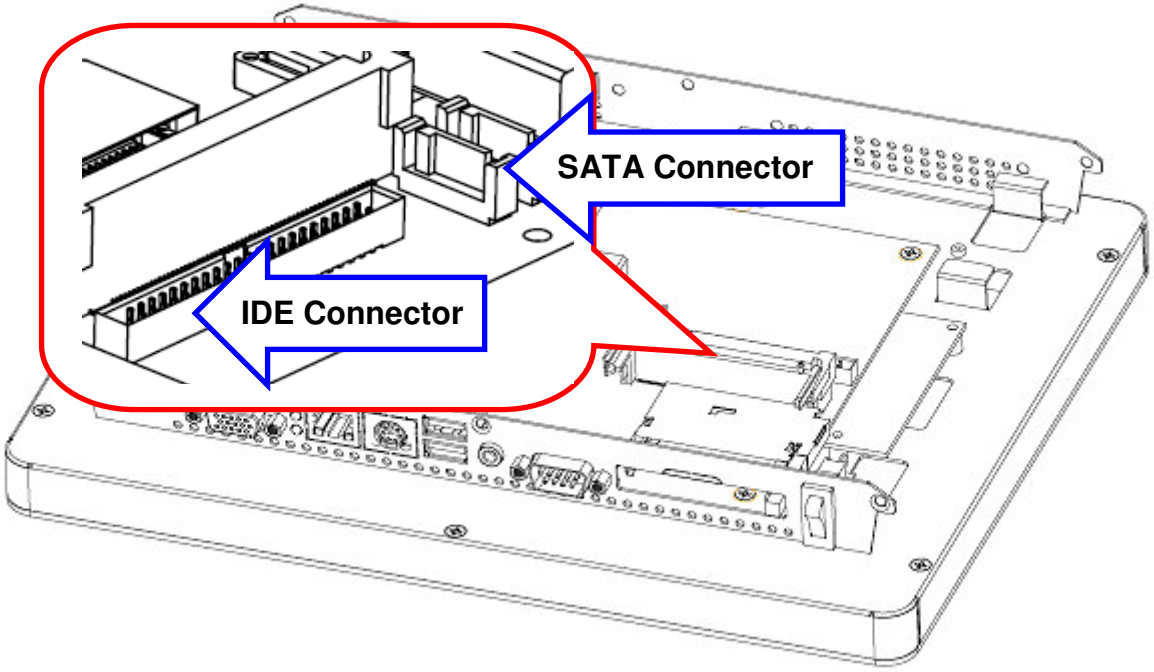
Step 1. Unfasten 6 screws from the case. Then take off the top chassis.



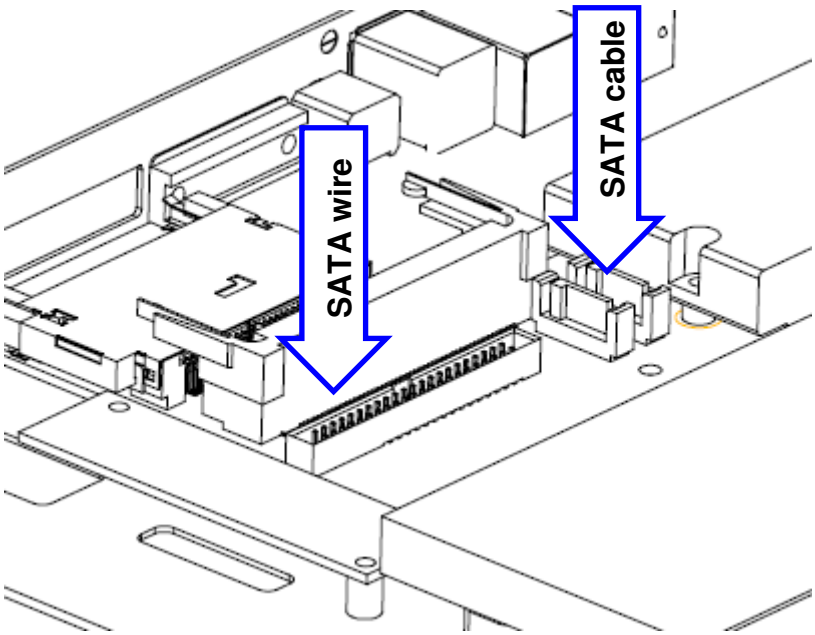
Step 2. Insert the SODIMM into the memory socket.



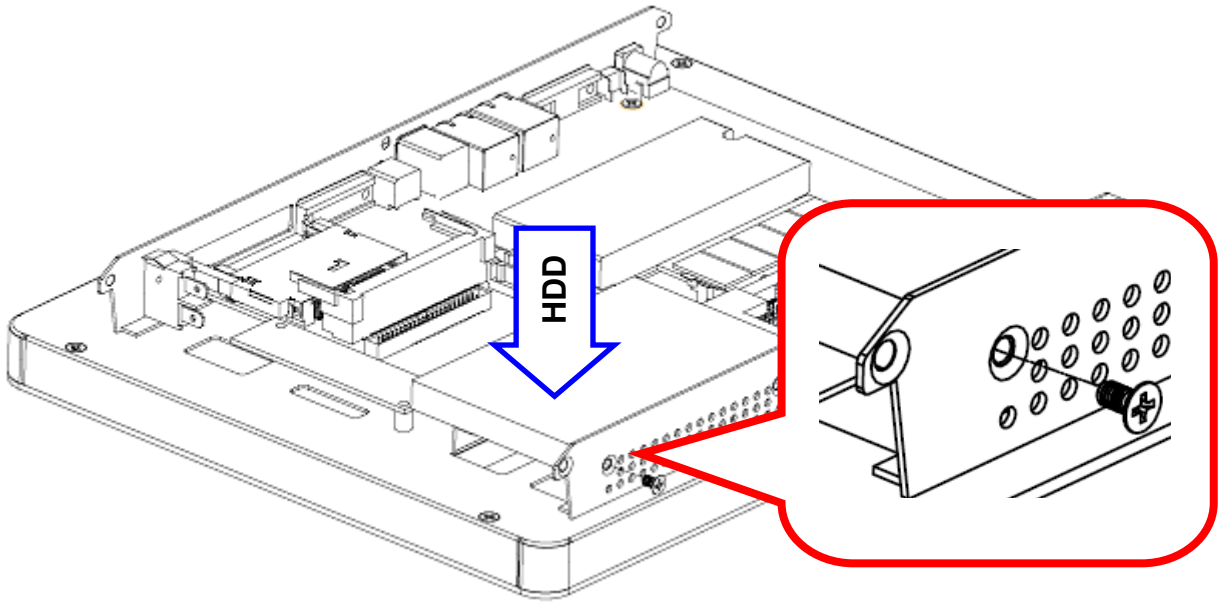
Step 3-1. HDD Installation: Insert the cable to connect the HDD and the SATA connecter.



Step 3-2. SATA HDD Installation: By default, the SATA cables had been inserted to the according connectors. Just connect to SATA HDD with the two cables.



Step 3-3. Insert the HDD into the Drive Bay. Remember to place the HDD down to the bottom exactly in order to screw the device tightly.



Step 4. Place back the chassis with 6 screws locked.